

## (19) United States

# (12) Patent Application Publication (10) Pub. No.: US 2013/0067469 A1

## Mar. 14, 2013 (43) **Pub. Date:**

### (54) LOAD BALANCING BY ENDPOINTS

(75) Inventors: **Manuvir Das**, Hyderabad (IN); Sudarshan Yadav, Hyderabad (IN); Arvind Kandhare, Hyderabad (IN); Sanjay Malpani, Hyderabad (IN); Ranjana Rathinam, Hyderabad (IN); Jayaraman Thiagarajan, Hyderabad

Assignee: Microsoft Corporation, Redmond, WA

(US)

Appl. No.: 13/232,894

(22) Filed: Sep. 14, 2011

#### **Publication Classification**

(51) Int. Cl. G06F 9/455 (2006.01)

52)	U.S. C	<b>l.</b>	
	USPC		718/1

#### ABSTRACT (57)

A mechanism is provided for In a cloud computing infrastructure, a mechanism is provided for balancing client sessions across virtual machines such that the number of virtual machines is efficiently managed. In some embodiments, the total number of virtual machines is minimized to reduce power consumption, cooling, and other cost drivers, while assigning users across the sessions. In one embodiment, the sessions in a virtual machine with low activity are migrated to a virtual machine with higher session rates to allow for the shutdown of the low usage virtual machines. In another embodiment, new user sessions are assigned according to a minimum performance standard.

